

## **WARNING**

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Family Name	
Given Names	
Student Number	
Teaching Period	Semester 1, 2017

FINAL EXAMINATION	DURATION
PRT453 – Process Development Methodologies	
	Reading Time: 10 minutes
	Writing Time: 180 minutes

### INSTRUCTIONS TO CANDIDATES

1.1 The examination has 2 sections (please adjust details as required if more than one section)

<b>Section A:</b> Suggested Time: 30 min	<b>Multiple Choice Questions:</b> Answer ALL 6 questions Marks as indicated by lecturer	<b>25 Marks</b>
<b>Section B:</b> Suggested Time: 30 min	<b>Short Answer Questions:</b> Answer ALL 4 questions Marks as indicated by lecturer	<b>40 Marks</b>
<b>Section C:</b> Suggested Time: 60 min	<b>Short Answer Questions:</b> Answer ALL 4 questions Marks as indicated by lecturer	<b>40 Marks</b>

Section A and Section B are to be answered The answer Booklet.

Please ensure that your Name and Student Number are written clearly in the space provided at the top of this page.

- 1.2 Note that questions **ARE NOT** of equal value.  
 1.3 Read **ALL** questions carefully.  
 1.4 Total Marks for exam: 105 Marks

### EXAM CONDITIONS

**You may begin writing from the commencement of the examination session.** The reading time indicated above is provided as a guide only.

This is a RESTRICTED OPEN BOOK examination

No calculators are permitted

One A4 sheet of handwritten double-sided notes permitted

Any hard copy, unannotated English dictionary is permitted

ADDITIONAL AUTHORISED MATERIALS	EXAMINATION MATERIALS TO BE SUPPLIED
No additional printed material is permitted	2 x 16 Page Book

**THIS EXAMINATION IS PRINTED  
DOUBLE-SIDED.**

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## Section B

### Short Answer Questions

**Total No of Marks for this section: 40 Marks**

This section should be answered in the exam book.

Marks for each question are indicated. Suggested Time allocation for Section B: 40 mins

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#### Question 1

- a) What is the rationale for refactoring in agile development?

(Marks: 5)

- b) Explain Kent Beck's metaphor of "two hats".

(Marks: 5)

(5+5=10 Marks)

#### Question 2

Describe each of the following and explain how they differ. (Short Sentence answers)

- Structured Programming

(Marks: 5)

- Top-down development

(Marks: 5)

- Test Driven Development

(Marks: 5)

- Software Patterns

(Marks: 5)

(Marks: 5+5+5+5 = 20)

#### Question 3

List two composite refactoring that could be used to remove the code smell Duplicate Code. For each refactoring explain when it would apply?

(Marks: 5+5 = 10)

## Section C

### Short Answer Questions

**Total No of Marks for this section: 40 Marks**

This section should be answered in the Answer Booklet provided.

Marks for each question are indicated. Suggested Time allocation for Section B:90 mins

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#### Question 1

Consider the following narrative:

*Tom: Sure, we don't apply the waterfall methodology – everybody knows it doesn't work. We've adopted SCRUM for our project. We have already completed listing all the requirements for the first two iterations. After we have meet with the client and he has reviewed our story cards we'll start programing.*

Comment on this. (Short paragraph).

(Marks: 10)

#### Question 2

- a) What is DOD-STD-2167 (DOD US department of Defence) standard and what effect did it have on software engineering
- b) What is DOD 5000.2 acquisition ``instruction'' and what effect has this had on software engineering

(Marks: 10)

#### Question 3

- a) List three benefits of the Replace Conditional Logic with Strategy refactoring.
- b) List one liability of the Replace Conditional Logic with Strategy refactoring

(Marks: 10)

#### Question 4

Consider the following backlog.

Product Backlog						Week 1									
						Mon		Tue		Wed		Thur		Friday	
S	Story	Assigned	Status	Size	Priority										
ID	Name					E	T	E	T	E	T	E	T	E	T
1	Display workflow	Jane	Ongoing	30	2	6	25	6	21	6	15	6	9	6	3
2	Workflow Layer	John	Ongoing	27	1	6	26	6	26	6	24	6	27	6	27
3	UI -login	Peter	Ongoing	5	5	6	0	6	0	6	0	6	0	6	0
4	View task list	Lisa	Ongoing	20	6	0	20	0	20	3	17	6	11	6	3
5	Pend item	Lisa	Done	15	3	6	9	6	3	3	0	0	0	0	0
6	Print Item	Alyssa	Done	20	4	6	14	6	8	6	2	2	0	0	0
7	Comment on Item	Alyssa	Ongoing	25	7	0	25	0	25	0	25	4	21	6	15

E = Effort

T = Todo

Discuss this backlog and chart with respect to the advantages of SCRUM process methodology and analyse the problems of this sprint.

(Marks: 10)

END OF EXAM